may indicate a second input type. In a third example, a determined first length of time of an applied force may indicate a first input type and a second length of time of an applied force may indicate a second input type. In a usage scenario, the electronic device **210** is a camera with autofocus capability; the user "half-presses" a shutter button that is a deformable region **126**, in the expanded state, to initiate autofocus; however, because the force required to "half-press" the button is relatively small, the detected force is not necessarily indicative of a user desire to initiate autofocus. In this usage scenario, the processor **170** determines the desire to initiate autofocus if the force (e.g., the change in fluid pressure) is detected over a particular period of time; in this usage scenario, the processor **170** may also detect the magnitude of the applied force (as described in the second example) to distinguish between a user desire to initiate the autofocus capability (a first input type) and a user desire to take a photo (a second input type). In a fourth example, the pressure sensors **150**, **160** detect the distance by which the user inwardly deforms the particular deformable region **126** in the expanded state. The distance by which the user inwardly deforms the particular deformable region **126** may be detected by measuring the pressure and/or pressure change that results from the inward deformation of the expanded particular deformable region **126**; specifically, the processor **170** may determine that a particular pressure and/or pressure change correlates to a particular distance by which the user inwardly deforms the particular deformable region **126**. However, the processor **170** and the pressure sensors **150**, **160** may cooperate to determine the type of user input by any other suitable method and/or means.

[0054] In a third variation, the pressure sensors **150**, **160** and the processor **170** cooperate to determine the location of the user input. The third variation relies substantially on a fluidic property known in the field, wherein an increase in fluid pressure at a particular point in a fluid vessel (e.g., a fluid channel **132** or fluid port **134**) propagates throughout the fluid vessel over time. The first pressure sensor **150** and the second pressure sensor **160** are preferably coupled to the fluid channel **132** (or other fluid vessel of the user interface system **100**) at an appreciable distance from each other, as shown in FIGS. **1** and **8** (although the system may incorporate only a single pressure sensor). A change in fluid pressure (or absolute fluid pressure) is detected as a function of time at both the first and second pressure sensors **150**, **160**; the outputs of the first and second pressure sensors **150**, **160** are preferably of the magnitude of the pressure change (or absolute pressure) relative to time, and a comparison of these two outputs preferably results in a determination of the location of the force **129** applied to the tactile surface **122** by the user. In a first variation, the first and second pressure sensors **150**, **160** are located at different locations within a cavity defined by the fluid port **134** and the back surface **124** of an associated particular deformable region **126**; the two pressure sensors **150**, **160** and the processor **170** thus cooperate to determine the location of a user input along the particular deformable region **126**. In a second variation, shown in FIG. **2**, the pressure sensors **150**, **160** are located at different locations within the fluid channel **132**, such that the pressure sensors **150**, **160** and the processor **170** cooperate to determine the location of a user input among various deformable regions **126** coupled to the fluid channel **132** via a plurality of fluid ports **134**. In a first example, because an increase in pressure at a particular deformable region **126** requires more time to travel to the more distant of the first and second pressure sensors **150**, **160**, the processor **170** determines the location of a user input to be closer to the pressure sensor that detects a pressure change of a certain magnitude in the least amount of time; in this example, the processor **170** preferably determines the specific deformable region **126** upon which the input force **129** is applied. In a second example, because fluid pressure changes more rapidly at a location nearer the source of the pressure increase, the processor **170** determines that the location of the user input **129** is nearer to the pressure sensor that detects a higher rate of pressure change. In a third example, because fluid pressure in a fluid increases at a faster rate and reaches a higher maximum fluid pressure nearer the origin of the pressure increase, the processor **170** determines the location of the user input to be more proximal to the sensor that detects a higher fluid pressure after a particular time following a first detected change in fluid pressure (e.g., the application of the input force).

[0055] In a fourth variation, the pressure sensors **150**, **160** are located within the fluid channel **132** and detect fluid pressure changes therein, as shown in FIGS. **2** and **7**. The fluid channel **132** is preferably of a substantially uniform cross-section and of a known length. Additionally, in the variation of the fluid channel **132** shown in FIG. **7** and the channel arrangement shown in FIG. **1**, the volume of fluid **110** within the fluid ports **134** is preferably small relative to the volume of fluid **110** contained within the fluid channel **132**; the flow of the fluid **110** through the fluid channel **132** may thus be substantially unaffected by fluid flow through any of the fluid ports **134**. Furthermore, data including the location of the pressure sensors **150**, **160** and the length of the fluid channel **132** is preferably available to the processor **170** such that standard in-tube fluid flow dynamics may be used to determine the location of a user input **129** provided on a deformable region **126**. For example, as a portion of the fluid no is displaced through the fluid channel **132** as a result of the force **129** applied by the user, the time at which a change in pressure is detected at the pressure sensors **150**, **160** and may used to determine where, within the fluid channel **132**, the fluid pressure first increases. More specifically, for a fluid of a known viscosity traveling through a tube of a known cross-section, the time difference between when a change in pressure is detected by the first pressure sensor **150** and when the change in pressure is detected by the second pressure sensor **160** may be used by the processor **170** to pinpoint the location of the initial pressure increase within the fluid channel **132**, such as relative to the first and second pressure sensors **150**, **160**; this location is preferably associated with the location of a fluid port **134** and/or the particular deformable region **126** associated with the fluid port **134**.

[0056] In the above variations, the processor **170** preferably interprets data provided by the first and second pressure sensors **150**, **160** at a particular time; the processor **170** may determine the location of the user touch by comparing the data gathered by the first and second pressure sensors **150**, **160**. Generally, the processor **170** may compare the magnitude of the pressure change (in the first variation), the magnitude of the rate of change (in the second variation), the time of the detected pressure change (in the third and fourth variations), or any other suitable data detected by the first and second pressure sensors **150**, **160** and pertinent to determining the location of the user input **129**. Alternatively, the processor **170** may determine the location of the user touch **129** by comparing data gathered by the first and second pressure